North Tyneside Council

2025 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995 Local Air Quality Management, as amended by the Environment Act 2021

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Local Responsibilities and Commitment

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Executive Summary: Air Quality in Our Area

Air Quality in North Tyneside

Breathing in polluted air affects our health and costs the NHS, local government and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality.

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Low-income communities are also disproportionately impacted by poor air quality, exacerbating health and social inequalities.

Table ES 1 provides a brief explanation of the key pollutants relevant to Local Air Quality Management and the kind of activities they might arise from.

Table ES 1 - Description of Key Pollutants

Pollutant	Description
Nitrogen Dioxide (NO_2)	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation.
Sulphur Dioxide (SO_2)	Sulphur dioxide (SO_2) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Particulate matter is everything in the air that is not a gas. Particles can come from natural sources such as pollen, as well as human made sources such as smoke from fires, emissions from industry and dust from tyres and brakes. PM_{10} refers to particles under 10 micrometres. Fine particulate matter or $PM_{2.5}$ are particles under 2.5 micrometres.

North Tyneside is located to the east of Newcastle upon Tyne. It is one of the five metropolitan districts that makes up the Tyne and Wear conurbation. The Borough is made up of 20 wards and has a residential population of around 212,000 with

approximately 99,000 households and covers an area of 84km2. The Borough stretches from the eastern boundary of Newcastle upon Tyne to the North Sea and from the southern boundary of Northumberland to the River Tyne.

The northern fringe of the Borough is open countryside with the main urban areas, including the towns of Wallsend, North Shields, Tynemouth, and Whitley Bay located along the river and coastline. Additionally, there are three large settlements to the west of the Borough; Longbenton, Forest Hall and Killingworth and to the north of the Borough are the villages; Wideopen, Burradon, Annitsford, and Backworth.

The River Tyne is a commercial river with ship repair, offshore fabrication, fishing and port related industries. The riverside urban area has undergone major regeneration which has resulted in some diversification from ship building to offshore related construction work. Business parks were created along the main transport routes of the A19 and the coast road A1058 including Cobalt Business Park, Balliol Business Park and retail outlets including the Silverlink and Royal Quays. Residential areas have been developed on former industrial land adjacent to the heavy engineering yard Smulders in Wallsend, on the former Hayhole gas works at Wallsend and at The Limes, Great Lime Road, Palmersville. Residential development have also been created on greenfield land adjacent to the A19 at Backworth and Scaffold Hill. New residential developments have been approved and are under construction on area of land known as the Murton Gap, between Whitley Bay and New York, and on Killingworth Moor to the north of the borough.

North Tyneside Council has 61 smoke control areas that cover the majority of North Tyneside. Smoke control areas make it an offence to create smoke from a chimney except during lighting up when kindling can be used. Further smoke legislation has been introduced restricting retail shops to sell only smokeless solid fuel, and for all wood sold in volumes of less than 2 cubic metres required to be certified as ‘Ready to Burn’. Environmental Protection team will investigate and enforce compliance with the smoke control legislation to ensure no un-authorised fuels and/or appliances are being used within the smoke control areas. The use of solid fuel or wood burning stoves as a source of heating for domestic properties has increased over the last few years which could increase localised particulate emissions in residential areas. A resident can install a log burner or multi fuel stove provided it is on the DEFRA list of exempted appliances and is installed by a competent person.

Smoke control enforcement remains a priority for North Tyneside Council. Three indicative particulate monitors were purchased in 2024 and have been installed within residential areas to measure fine particulate levels in areas where there has been an increase in the use of wood burning stoves.

The main pollutants monitored within the Borough of North Tyneside arise from traffic emissions and are nitrogen dioxide (NO_2) and fine particulates. Fine particulates are particulates of less than 2.5 microns in diameter ($PM_{2.5}$) or 10 microns in diameter (PM_{10}) and are breathed into our lungs.

Nitrogen Dioxide monitoring is carried out via indicative passive monitoring at roadside locations throughout the Borough. Monitoring shows NO_2 concentration levels have decreased in 2024 at all monitoring locations when compared with the period 2020 to 2023. All monitoring locations show North Tyneside continues to achieve good air quality. The nitrogen dioxide annual mean concentrations are below the UK air quality objectives, including at the automatic monitoring station located at NTC01 on the Coast Road A1058. There were 5 new passive indicative NO_2 sites introduced for the 2024 monitoring year with one site reintroduced, that had been suspended for one year whilst the school's road closure study took place. The Authority has not declared any Air Quality Management Areas (AQMAs) within the Borough and the latest monitoring data has shown no requirement to proceed to declare any AQMAs.

There was one major development for residential properties at the former Queen Alexandra College, which has yet to be granted planning approval. The application was received in 2024 and was accompanied by an air quality assessment as there was the potential to affect air quality. Another planning application for a pet crematorium was also identified as having the potential to impact air quality and the applicant was required to carry out an air quality assessment. This application was granted approval in January 2025. Further information on the planning applications are provided in Appendix C. There was one new industrial process granted an environmental permit in 2024, with further details on the process provided in Appendix C.

There were no other new major sources of nitrogen dioxide and particulate matter in the Borough in 2024. North Tyneside Council will continue to monitor for nitrogen dioxide using indicative passive monitors, and real time monitoring for nitrogen dioxide and particulates, which is carried out at the real time station located on the Coast Road A1058.

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, there are some areas where local action is needed to protect people and the environment from the effects of air pollution.

North Tyneside Council has an Air Quality Strategy which identifies future actions to reduce air pollution and improve public health, by a multi-disciplinary approach involving spatial and transport planners, environmental and public health teams, local political and community leaders and the public. The Air Quality Strategy has 8 aims and 31 actions towards improving air quality in the borough. These are:

- to maintain and improve air quality and health
- reduce transport related emissions
- review air quality in planning policy
- review development and land use
- promote public health and improve health outcomes linked to air quality
- review and promote reductions in emission from fixed sources
- encourage public participation and informed choices on air quality and health,
- review and promote the benefits of carbon Net Zero Action Plan on air quality and to ensure the Authority work collaboratively.

The Air Quality Strategy identifies the Authority's role in promoting sustainable transport in action 2.1 by supporting the greater use of more sustainable modes of transport in preference to motorised journeys, through the implementation of the North Tyneside Transport Strategy and the Carbon Net Zero Plan. Most actions and initiatives taken by North Tyneside Council in 2024 are to reduce the environmental impact of traffic on the roads and encourage healthier, alternative methods of transport. Phase one of the Seafront Sustainable Travel Route, funded

via a £11m grant from Active Travel England, was completed in 2024. Phase one of the Route was from North Shields Fish Quay to Tynemouth. Phase two, which started towards the end of 2024 will connect the route through to St Mary's Lighthouse in Whitley Bay. The route is designed for people using sustainable and active forms of travel. The route creates a 5-mile coastal pathway, with dedicated two-way safe space for cyclists and pedestrians.

A new active travel route opened in Wallsend between Segedunum Roman Fort Museum and the bus station. This was funded by a £1.28 million capital grant from the UK Government and the UK Shared Prosperity Fund.

Another scheme designed to promote walking, wheeling and cycling that was completed and opened in December 2024 is a new riverside walkway between North Shields town centre and North Shields Fish Quay. The walkway improves pedestrian links between these two areas. The investments in improving active travel routes is designed to change the behaviour of local people from using the car for short journeys and travel by an alternative mode, thereby bring about air quality improvements in the borough.

The Authority's Transport Strategy 2017-2032 aims to:

- build on connectivity by having a fully integrated transport network, which not only makes it easy to get around within the borough, but also provides a gateway to the rest of the North East.
- Delivers an integrated transport network which promotes sustainable travel (walking, cycling, public transport) by making sure different modes of travel work together seamlessly thereby connecting walking and cycling routes to public transport routes.
- Reduces the number of people dependent on their cars, which will reduce carbon emissions and improve air quality, and help both social and economic regeneration.

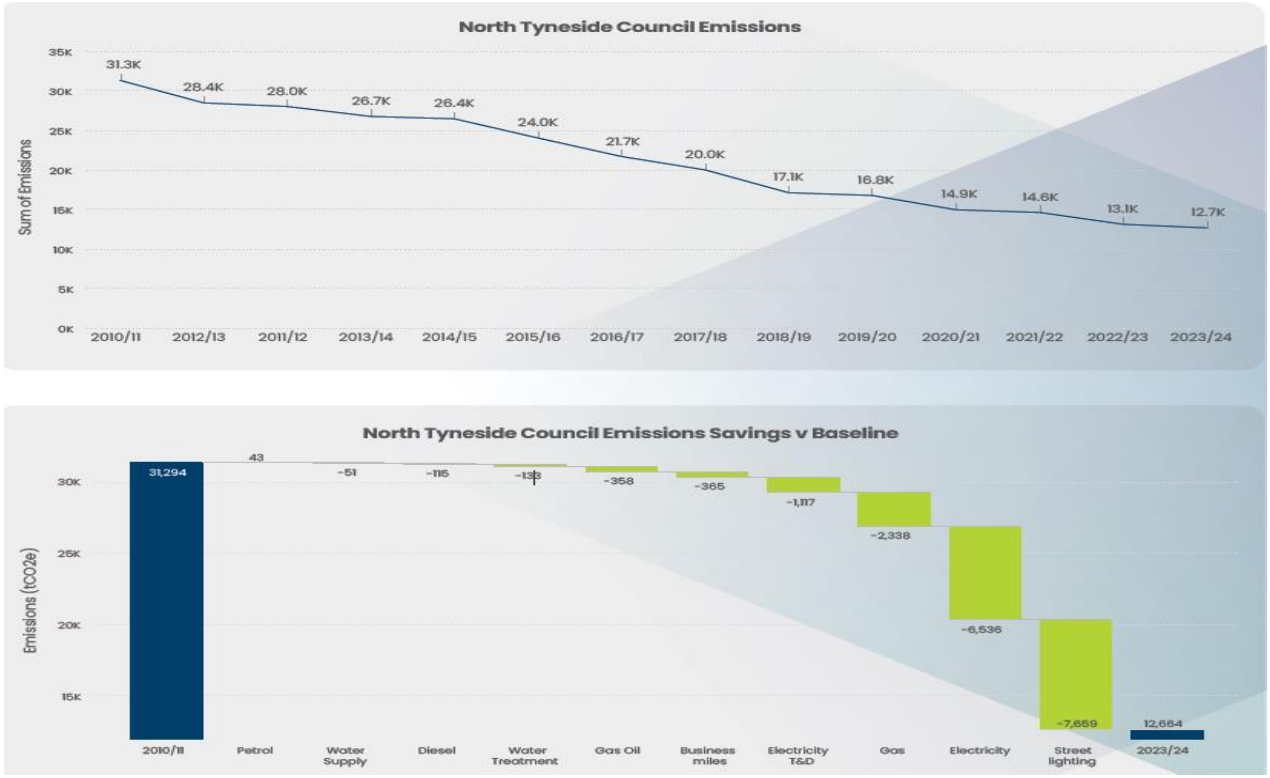
The Transport Strategy links to the Authority's Cycling Strategy which has a key aim to encourage a better environment for everyday cycling and to continue the excellent progress being made in North Tyneside in terms of increased participation in cycling. The Cycling Strategy also supports the steps the Authority will take to make North Tyneside carbon net-zero by 2030. It also reflects the objectives of the regional North East Transport Plan and its aims of improving the cycling network and supporting active travel.

The transport related measures carried out during 2024 bring about air quality improvements and ensure that the aims and objectives of the Air Quality Strategy are met.

A number of initiatives were completed as part of the Net Zero 2030 Plan to meet the requirements of Aim 7 of the Air Quality Strategy to promote this plan. One initiative was the upgrading of 300 homes with energy efficiency heating systems to reduce the Authority's carbon footprint. The scheme is being funded via a 3 year grant of £4 million. In addition, a new energy advice service was launched in July 2024 to help cut household energy bills. The service run by the Energy Saving Trust provides free tailored energy advice to residents. The scheme is being funded by the North East Combined Authority through a £2 million grant and will give air quality benefits via reduced wastage of heat and fuel efficiencies.

The following graph labelled Figure ES.1 depicts the reduction in carbon emissions made by the Authority since 2010, showing a significant reduction from the many initiatives that have been completed.

Figure ES.1 – Trends in North Tyneside Council Carbon Emissions



North Tyneside Council continues to support action 2.2 of Strategy promoting 'Go Smarter' scheme. 12,369 school pupils received 'Go Smarter' sustainable travel promotion and /or

road safety training. 2,109 school pupils received national standard 'Bikeability' training. Active travel to school continues to be promoted although all schools now have active travel plans and walking maps in place. These initiatives help to support children and their families to walk, wheel or cycling in place of car use, supporting cleaner air.

Environmental Health continues to investigate smoke nuisance and breaches of the smoke control orders. The introduction of a smoke enforcement policy will allow a quicker more effective means to penalise offenders of smoke control offences using financial penalties and ensure action 1.4 of the Air Quality Strategy is achieved.

Two new indicative continuous air emission monitors were purchased in 2023. These are located on Holystone Way, A191, as shown in Figure ES.2. The air samplers monitor NO_2 and PM pollutant levels arising from the dualling of the road and increased volume of traffic from the Scaffold Hill residential development. The air sampling is useful as a guide to provide a snapshot of the pollutant levels in this area.

Figure ES.2 – Map of Indicative Air Samplers Monitoring Sites About A191, Holystone Way.

The indicative monitoring results for 2024 about A191 for NO_2, $PM_{2.5}$ and PM_{10} are given in Table ES.2.

Table ES.2 – Indicative Air Quality Monitoring About A191,Holystone Way

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Valid Data Capture 2024 (%)	2024 NO_2	2024 PM_{10}	2024 $PM_{2.5}$
HS1	430475	570226	100	8.74	12.7	8.3
HS2	430289	569839	100	8.59	8.56	5.44

The indicative monitoring has shown that all pollutants levels for 2024 are well below the annual mean objective level of 40 µg/m^3 for both NO2 and PM10.

North Tyneside Council takes air quality seriously and strives to mitigate impacts through good planning design and improved transport infrastructure.

Conclusions and Priorities

North Tyneside Council is pleased to report that no exceedances of the Air Quality Objectives were identified during the year 2024. The Authority does not currently have any AQMA's. The monitoring results for 2024 conclude that there continues to be no requirement to declare any AQMAs for any pollutants.

A review of the monitoring data over the last five years indicates a slight decrease in NO_2 and particulate levels in 2024 when compared with the period 2020-2023. The 2024 monitoring has also shown that levels for both NO_2 and particulates continue to remain below the National Air Quality Objectives.

Our main priorities for 2025 are as follows:

- North Tyneside Council will continue to focus on the aims and objectives of the Air Quality Strategy that highlights the Authority's commitment to a proactive approach to improving air quality.
- North Tyneside Council remains committed to review and monitor the air quality in the borough gathered from the automatic and passive NO2 and particulate monitors.
- Location of pollutant monitors will be reviewed to ensure these are reflective of areas of potential highest exposure to the pollutants, by review of monitoring data and relocation of NO_2 passive diffusion tube monitors where shown to have persistently low pollution levels.

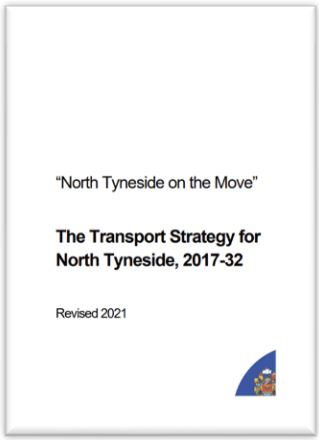
How to get Involved

North Tyneside Council continues to engage with the public and other interested parties. In 2025 a meeting was held with Whitley Bay Friends of the Earth to provide an overview of the actions the Authority are taking to improve air quality and to discuss ways they can get involved. The Authority's Air Quality Strategy also highlights air quality in decision making for all new developments and is incorporated into the Local Plan.

North Tyneside Council will continue to provide information on air quality and pollution control including past reports are available using the following weblink: North Tyneside Air Quality.

North Tyneside Council encourages everyone to consider how they travel, as cycling and walking will improve health and well-being, but also the environment. A network of cycle routes has been developed and is promoted on North Tyneside Council's website.

A Cycling strategy and Local Transport Strategy have been produced by the Authority. Further information about these strategies can be obtained from the following website:



NTC Cycling Strategy, Transport strategy

Information on North Tyneside Council Climate Change and Sustainability Policies are available using the following link:

Climate Change Policies

Detailed information is also available on the government stance on air quality. Further information on Local Air Quality Management is available at the following web address:

https://uk-air.defra.gov.uk/

Table of Contents

Local Responsibilities and Commitment i
Executive Summary: Air Quality in Our Area i
Air Quality in North Tyneside i
Actions to Improve Air Quality iv
Conclusions and Priorities viii
How to get Involved ix
1 Local Air Quality Management 1
2 Actions to Improve Air Quality 2
2.1 Air Quality Management Areas 2
2.2 Progress and Impact of Measures to address Air Quality in North Tyneside Council 4
2.3 $PM_{2.5}$ – Local Authority Approach to Reducing Emissions and/or Concentrations 8
3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance 12
3.1 Summary of Monitoring Undertaken 12
3.1.1 Automatic Monitoring Sites 12
3.1.2 Non-Automatic Monitoring Sites 12
3.2 Individual Pollutants 13
3.2.1 Nitrogen Dioxide (NO_2) 13
3.2.2 Particulate Matter (PM_{10}) 14
3.2.3 Particulate Matter ($PM_{2.5}$) 15
Appendix A: Monitoring Results 16
Appendix B: Full Monthly Diffusion Tube Results for 2024 29
Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC 31
New or Changed Sources Identified Within North Tyneside Council During 2024 31
Additional Air Quality Works Undertaken by North Tyneside Council During 2024 33
QA/QC of Diffusion Tube Monitoring 33
Diffusion Tube Annualisation 33
Diffusion Tube Bias Adjustment Factors 33
NO_2 Fall-off with Distance from the Road 35
QA/QC of Automatic Monitoring 35
PM_{10} and $PM_{2.5}$ Monitoring Adjustment 35
Automatic Monitoring Annualisation 36
NO_2 Fall-off with Distance from the Road 37
Appendix D: Map(s) of Monitoring Locations 38
Appendix E: Summary of Air Quality Objectives in England 39

Glossary of Terms **40**
References **41**

Figures

Figure ES.1 – Trends in North Tyneside Council Carbon Emissions vi
Figure ES.2 – Map of Indicative Air Samplers Monitoring Sites vii
Figure A.1 – Trends in Annual Mean NO_2 Concentrations at Long Term Non-Automatic Monitoring Sites 23
Figure A.2 – Trends in Annual Mean PM_{10} Concentrations at Automatic Monitoring Locatoin NTC01 23
Figure D.1 – Map of Automatic and Non-Automatic Monitoring Sites 38

Tables

Table ES.1 – Description of Key Pollutants ii
Table ES.2 – Indicative Air Quality Monitoring, Holystone Way viii
Table 2.1 – Progress on Measures to Improve Air Quality 7
Table A.1 – Details of Automatic Monitoring Sites 16
Table A.2 – Details of Non-Automatic Monitoring Sites 16
Table A.3 – Annual Mean NO_2 Monitoring Results: Automatic Monitoring (µg/m^3) 20
Table A.4 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3) 21
Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3 24
Table A.6 – Annual Mean PM_{10} Monitoring Results (µg/m^3) 25
Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3 27
Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results (µg/m^3) 28
Table B.1 – NO_2 2024 Diffusion Tube Results (µg/m^3) 29
Table C.1 – New Industrial Processes 32
Table C.2 – Bias Adjustment Factor 34
Table C.3 – Automatic PM_{10} Annualisation Summary 34
Table C.4 – Automatic $PM_{2.5}$ Annualisation Summary 34
Table E.1 – Air Quality Objectives in England 39

1 Local Air Quality Management

This report provides an overview of air quality in North Tyneside during 2024. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by North Tyneside to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England are presented in Table E.1.

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained, and provide dates by which measures will be carried out.

North Tyneside Council currently does not have any declared AQMAs. A local Air Quality Strategy is in place to prevent and reduce polluting activities. The Local Air Quality Strategy is available on the Authority's website.

The aims and objectives of the air quality strategy are reviewed regularly through an air quality steering group, meeting twice yearly to discuss progress. This group is represented by Highways, Planning, Sustainability, Public Health and Environmental Health to discuss progress on the aims and actions of the strategy.

Air quality information is made available on the Authority's website. This information is reviewed annually and updated.

Aim 1.4 and 1.5 of the Strategy focuses on smoke enforcement. During 2024 indicative real time air samplers monitoring for NO_2 and particulates were placed in residential areas where concerns over wood burning appliances and associated odours, and smoke emissions had been raised to assess impact of localised emissions. The residential monitoring locations are in Tynemouth, Whitley Bay and Wallsend and data will be reviewed in 2025 to assess impact of such appliances in residential areas on air quality. Promotional action to highlight smoke enforcement legislation occurred in 2024 and the aim is to create a smoke enforcement policy in 2025-26.

The taxi licensing policy took effect from 1 April 2024. This policy requires for all new vehicle applications to meet Euro 6 for diesel vehicles and Euro 5 for petrol vehicles. Other restrictions take effect in 2027.

In relation to the action plan 2024 for the Net Zero 2030, the Authority was graded as 'A' by an international independent assessment and verification panel on the Carbon Disclosure Project (CDP) - and achieved international acclaim as one of 119 authorities

worldwide, leading on climate action. The Department of Environment, Farming and Rural Affairs (DEFRA) have invited the Authority to participate in the 2024 Pilot for Local Authorities to report on Adaptation to climate change. The Authority is one of twenty-eight pilots in England.

As part of the Public Sector Decarbonisation Scheme - The Authority has secured £1.7m to undertake the replacement of end-of-life gas heating systems in two buildings and replace them with air source heat pumps and other energy efficiency measures. The Authority has secured £76.5k for the delivery of the Borough contribution to the North East Community Forest.

Also actioned in 2024 was the completion of a full North Tyneside Council cross-party working group to assess options for on-street EV charging for the public and delivering 9 EV charging points and replacement of legacy charging infrastructure.

Other measures implemented include cycling infrastructure improvements, public transport access improvements, bus fleet upgrades to EV, footpath upgrades, and an initiative to investigate the potential for borough wide ebike hire scheme and leasing options.

2.2 Progress and Impact of Measures to address Air Quality in North Tyneside Council

Defra's appraisal of last year's ASR concluded that:

- The 2024 report was well structured and detailed that clear trend graphs and monitoring location maps were included.
- It was recommended that a screenshot of the national database spreadsheet version number, for example 03/24. It is required to ensure the latest version of the tool is used, and thus determining the validity of bias adjustment applied.
- Clear justification was provided as to why the local adjustment factor was not used. North Tyneside Council should however consider co-locating a diffusion tube site with their automatic monitor to better validate results.
- That the Authority should continue to Reference to the Public Health Outcomes Framework, following the positive work made in the 2024 submission and to continue maintaining high standards of QA/QC procedures with sufficient supporting evidence being provided.

The comments of appraisal have been noted and actioned. It is proposed to co-locate diffusion tube monitoring with the automatic monitor located on the Coast Road NTC01 for the 2026 monitoring programme. A screenshot of the national database spreadsheet version number has also been included in this latest report.

North Tyneside Council has taken forward a number of direct measures during the current reporting year of 2024 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.. Eight measures are included within Table 2..1, with the type of measure and the progress North Tyneside Council have made during the reporting year of 2024 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.1.

More detail on these measures can be found in their respective Action Plans linked to the Air Quality Strategy. They can be found in North Tyneside Councils Low Carbon Plan 2016-2027, Transport Strategy, Cycling Strategy, North Tyneside Home to School/College Transport Policy, North Tyneside Hackney Carriage and Private Hire Licensing Policy, North Tyneside Network Management Plan and the Net Zero 2030 Action Plan. These plans all contribute to help implement measures to improve air quality.

Key completed measures are:

- Monitoring and ratification of NO_2 at 29 diffusion tube locations.
- Support of real time continuous air quality monitoring for NO_2 and Particulates, including $PM_{2.5}$ at the real time air station located on the Coast Road A1058.
- Use of 2 indicative real time samplers on Holystone Way, A191 monitoring of NO_2 and Particulates, including $PM_{2.5,}$ providing a guide to the air quality in the area.
- Smoke Control enforcement remains a high priority. Where complaints are received, they are fully investigated to ensure residents are burning the correct fuels for use within the smoke control areas. Information is requested on the fuels purchased, and where wood is being burnt to ensure the appliance is on the exempt appliance list.
- Promotion of the ‘Go smarter’ scheme to encourage alternative transport modes such as walking or wheeling to school.
- North Tyneside Council continues to encourage and promote alternative clean transport modes such as cycling to improve air quality and promotes a cycle to work scheme via salary sacrifice. North Tyneside’s cycling strategy is available on the Authority’s website.
- A car sharing scheme is available for all employees located at North Tyneside Councils main offices at The Quadrant, which is managed by the Cobalt Travel Centre who coordinate drivers and passengers. The scheme supports employees to consider car sharing as a cost effective and more sustainable travel option.

North Tyneside Council expects the following measures to be completed over the course of the next reporting year:

- Real Time Continuous Monitoring of NO_2 and Particulates at one real time air station located on the Coast Road A1058. Wallsend.

- Indicative passive monitoring of NO_2 at 29 diffusion tube locations located about the Borough and indicative real time monitoring for NO_2 and particulates about road side and background urban locations.
- Reviewing the results of the passive indicative NO_2 diffusion tube data and monitoring locations based on results and current concerns to ensure that monitors are positioned at the most appropriate locations as per Defra's Local Air Quality Management technical guidance (TG22).
- First year review of the three indicative real time NO_2 and Particulate monitors, including $PM_{2.5}$ located at urban background residential areas of Wallsend, Tynemouth and Whitley Bay.
- Second year review of the two indicative real time NO_2 and Particulates roadside monitors including $PM_{2.5}$ about Holystone Way, A191 to look at any trends in the data.
- Expansion of the electric vehicle charging network.

North Tyneside Council does not anticipate any challenges and barriers to the implementation of the above measures.

Table 2.1 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1.	Net Zero Action Plan	Policy Guidance and Development Control	Other Policy	2019	2030	Local Authority	NA	NO	Not Funded	Implementation	Reduced vehicle emissions	Reduction of NO_2, PM	Implementation on-going	None
2	Encourage the use of electric vehicles by providing public charging points	Promoting Low Emission Transport	< Procuring alternative refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	<2025->	2025	Local Authority Transport Dept; North East Combined Authority	Government grant funding; transport capital allocation	Funded	>£200	Implementation	Reduced vehicle emissions	Reduction of NO_2, PM	Implementation on-going	Electricity grid capacity limitations can impact viability of locations
3	School Road Closure	Promoting Travel Alternatives	Schools Travel Plans	2022	Ongoing	Local Authority Transport Dep.	NA	NO	Not Funded	Implementation	Reduced vehicle emissions	Reduction of NO_2, PM	Implementation on-going	NA
4	Compliance Charge for Part B Processes	Environmental Permits	Other	N/A	Ongoing	Local Authority Environmental Health	NA	NO	Not Funded	Implementation	Reduced industrial emissions	Reduction of NO_2, PM	Implementation on-going	NA
5	Taxi Licensing Scheme	Promoting Low Emission Transport	Taxi Licensing conditions	2020	Ongoing	Local Authority Licensing	NA	NO	Not Funded	Implementation	Reduced vehicle emissions	Reduction of NO_2, PM	Implementation on-going	NA
6	Cobalt Car Sharing Scheme	Promoting Travel Alternatives	Workplace Travel Planning	2015	N/A	Cobalt Travel Team	NA	NO	< £10k	Implementation	Reduced vehicle emissions	Reduction of NO_2 and PM	Implementation on-going	NA
7	Car Lease Scheme	Promoting Low Emission Transport	Company Vehicle Procurement		Ongoing	NTC	NA	NO	Not Funded	Implementation	Reduced Vehicle Emissions	Reduction of NO_2 and PM	Implementation on-going	NA
8	Smoke Control Enforcement	Public Information	Via other mechanisms	2023	2025	Local Authority Environmental Health	Smoke Enforcement Grant	Yes	£11k	Planned	Reduced Smoke Emissions	Reduction of PM	Implementation on-going	NA

2.3 $PM_{2.5}$ – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy[1], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$). There is clear evidence that $PM_{2.5}$ (particulate matter 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Although levels of $PM_{2.5}$ are relatively low there are still improvements that can be made.

Evidence shows that long term exposure to poor air quality increases the risk of mortality from cardiovascular and respiratory diseases and lung cancer. Data from the Public Health Outcomes Framework shows that the estimated fraction of mortality attributable to particulate air pollution (2023) is 5% in North Tyneside compared to 5.2% in England.

Levels of $PM_{2.5}$ in North Tyneside as measured by the Coast Road NT01 automatic monitoring station are generally low. The annual mean results for particulates $PM_{2.5}$ for 2024 at Wallsend roadside site was 7.7µg/m^3 which is well below the EU target of 25 µg/m^3 and UK target of 20 µg/m^3. Actions already taken by North Tyneside Council to reduce pollutants such as PM_{10} and NO_2 as reported in Table 2.1 will support the reduction of $PM_{2.5}$ emissions.

North Tyneside Council is taking the following measures to address $PM_{2.5}$.

- North Tyneside Council currently monitors $PM_{2.5}$ at one real time station within the borough, located on the Coast Road A1058. The $PM_{2.5}$ pollutant levels at this location have shown a slight decrease over the last two years. This is considered to be the result of a temporary reduction in the speed limit for traffic travelling along the main Coast Road.

[1] Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

- It is anticipated that a government Automatic Urban and Rural Network (AURN) $PM_{2.5}$ monitor will be installed to measure the urban background emissions within North Shields. The timescale for its installation is unknown, however, such monitoring will be valuable for supporting the local air quality monitoring currently carried out.
- An Air Quality steering group operates and meets to prioritise actions and measures to tackle $PM_{2.5}$. The membership consists of all relevant partners including Transport, Planners, Public Health, Planning, Sustainability and Environmental Health.
- An Air Quality Strategy has been adopted that sets effective goals to bring about air quality improvements.
- Air quality inspections and enforcement around permitted polluting industrial processes are carried out in line with government requirements.
- Education and enforcement of smoke legislation undertaken to ensure compliance with smoke legislation around domestic solid fuel burning.
- An ongoing commitment to bring about traffic management improvements to reduce congestion.
- Reduce emissions from new developments (during the construction phase and in subsequent use), and existing buildings by implementing energy efficiency measures and affordable warmth schemes to reduce heat loss and drive down fuel bills.
- Engagement with new developments during the construction phase and working with the industry to ensure the implementation of adequate dust suppression and logistics around vehicular movement and the management of materials on site.
- Encouraging the use of public transport and promoting alternative modes of transport to reduce air quality emissions from vehicles. Promote and encourage the uptake of alternative ‘low emission’ vehicles within the Authority. Planning requirements to require travel plans for new developments. Building approval documents requiring electric charging points. Other incentives to reduce pollution by parking charges, and reducing of engines idling etc.
- Promotion of the Cycling Strategy. The Authority promotes and encourages cycling as a healthy and sustainable way of making everyday journeys. The Cycling Strategy outlines North Tyneside Council’s strategic approach to supporting cycling in the Borough.

North Tyneside Council will continue to provide information to residents on air pollution. Air pollution will be promoted via advice to the public on measures that can be taken on an individual level, and health issues by maintaining an up-to-date North Tyneside Council air quality webpage.

The majority of North Tyneside is covered by smoke control areas. Grant funding from DEFRA was utilised to purchase three indicative real time air samplers and installed in residential areas of Whitley Bay, Tynemouth, and Wallsend in 2024 to monitor particulates arising from increased solid fuel use. This data will be reviewed and reported in 2025.

One of the major sources of $PM_{2.5}$ in the borough are road traffic emissions, comprising engine exhaust, road and tyre/brake abrasion. The Authority are focused on measures designed to either reduce vehicle use or congestion, and to encourage businesses and residents to switch to alternative fuels, and such measures should assist in the reduction of $PM_{2.5}$ emissions. From 1 April 2024 no new vehicle taxi licences were granted unless the vehicle met the minimum emission standards of Euro 6 for diesel vehicles and Euro 5 for petrol vehicles. From 1 April 2026 a vehicle licence will not be renewed unless the vehicle meets the minimum emission standards of Euro 6 for diesel vehicles and Euro 5 for petrol vehicles and from 1 April 2027 a wheelchair accessible vehicle licence will not be renewed unless the vehicle meets the minimum emission standards of Euro 6 for diesel vehicles and Euro 5 for petrol vehicles.

Construction dusts are considered for all major planning applications granted approval. The developer must have a Construction Environmental Management Plan (CEMP) in place to mitigate dust emissions that may arise during construction, as it is recognised that such sites will contribute to localised particulate emissions. Complaints about dust arisings from construction and demolition activities are fully investigated and the Environmental Health closely monitors dust emissions from industrial installations.

Industrial emissions are regulated through the Environmental Permitting Regulations 2016. Businesses that meet the threshold requirements must apply for a Part B or A2 permit which are regulated by North Tyneside Council. One new Part B process was granted a

permit in 2024. All permitted processes are inspected in accordance with DEFRA guidance to ensure that national process guidance note emission limits are met and are minimised as far as is practically possible not exceeding excessive cost.

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

This section sets out the monitoring undertaken within 2025 by North Tyneside Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2020 and 2024 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

North Tyneside Council undertook automatic (continuous) monitoring at one site during 2024. Table A.1 in Appendix A shows the details of the automatic monitoring sites. NB. Local authorities do not have to report annually on the following pollutants: 1,3 butadiene, benzene, carbon monoxide and lead, unless local circumstances indicate there is a problem. Historic monitoring for benzene did not determine any concerns over this pollutant level and monitoring is no longer carried out. The Air Quality England website presents automatic monitoring results for North Tyneside Council, with automatic monitoring results also available through the UK-Air website. The automatic continuous site is owned and maintained by the Urban Observatory and located on the Coast Road in Wallsend. Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

The results of ratified adjusted data for NO_2, PM_{10} and $PM_{2.5}$ is provided in Appendix A tables A.2, A.3, A.7, and A.8, and the results are discussed in section 3.2.

3.1.2 Non-Automatic Monitoring Sites

North Tyneside Council undertook non- automatic (i.e. passive) monitoring of NO_2 at 29 sites during 2024. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including

bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

Closed sites:

HPPS1, HPPS2, HPPS3, HPPS4, CPS1 CPS2 CPS3 and CPS4 – Monitoring at these sites was for a limited duration as part of a study to assess air quality with and without road closure orders from the pick up / drop off bans at schools by use of road closures for specific peak times.

New Sites:

ER1, KW1, MT1, MT2, WM1 – new sites to monitor air quality next to busy road. LB1 monitoring at this site was suspended for one year whilst the schools road closure study took place. Monitoring recommenced in 2024.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2024 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Table A.5 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year.

None of the indicative NO_2 diffusion tube sites in North Tyneside exceeded the annual mean objective in 2024 following bias adjustment. There was no requirement for distance correction or annualisation for any of the monitoring sites. None of the indicative NO_2 diffusion tube monitoring locations have pollutant concentrations within 10% of the annual mean objective level and the annual mean NO_2 pollutant levels do not suggest any indication that concentrations will have exceedances of the 1-hour NO_2 mean objective level.

The automatic monitoring data in Wallsend gave an annual mean NO_2 concentration of 24.4 µg/m^3 which is below the annual mean objective level of 40 µg/m^3. The 2024 concentration level is much lower than the 2023 which recorded a level of 32.2 µg/m^3. This is attributed to improvements in the traffic flowing along the Coast Road A1058, possibly due to a temporary speed restriction of 50 mph on that part of the Coast Road A1058 as it leaves the Newcastle Upon Tyne boundary and enters into North Tyneside.

The long-term 5 year Annual Mean NO_2 trend chart in Figure A.1 provides a comparison between 2020 and 2024 of the long-term NO_2 indicative monitoring sites in the borough of annual means. The chart shows a decrease in NO_2 during 2024 compared to 2023. The trend shows that all long-term monitoring sites are well below the annual mean objective level of 40 µg/m^3. The NO_2 monitoring data shows that the Coast Road real time station recorded the highest annual mean concentration at 24.43 µg/m^3 given in table A.3. The Coast Road roadside monitoring location is adjacent to one of the main arterial roads into the borough, with high traffic volumes. The next highest concentration was at monitoring location W10 also located on the Coast Road in Wallsend, but further east of the real time station. This site is roadside and is adjacent to a couple of shops with residential flats above at first floor level and had a annual mean concentration of 21.6 µg/m^3. The lowest annual mean concentration of 9.4 µg/m^3 was recorded at KW1, which is located on Moorfield Drive, Killingworth. This is a one of the newly introduction monitoring sites.

The results for 2024 suggest that there is no requirement to declare any AQMAs in North Tyneside.

3.2.2 Particulate Matter (PM_{10})

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Table A.7 in Appendix A compares the ratified continuous monitored PM_{10} daily

mean concentrations for the past five years with the air quality objective of 50µg/m^3, not to be exceeded more than 35 times per year.

North Tyneside Council undertook particulate monitoring at one location in 2024 at the real time monitoring site located on the Coast Road A1058. Concentrations in 2024 were well below the objective, as they have been for the past five years. The annual mean objective was not exceeded at the real time monitoring site on the Coast Road A1058. The monitoring has also shown that there were no occasions where the 24 hour mean concentration level was above 50 µg/m^3, in 2024. The continuous particulate analyser suffered a fault and required repair. This influenced the data capture which was only 59 percent in 2024. The long-term 5 year Annual Mean PM_{10} trend chart in Figure A.2 provides a comparison between 2020 and 2024 of the long-term PM_{10} at the real time monitoring site. This has shown a slight decrease over the last two years in the mean concentration.

The results for 2024 for PM_{10} suggest that there is no requirement to declare any AQMAs in North Tyneside.

3.2.3 Particulate Matter ($PM_{2.5}$)

The real time monitoring site located on the Coast Road A1058 is able to monitor $PM_{2.5}$ pollutant levels. Table A.8 in Appendix A presents the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past five years.

The annual mean concentration for $PM_{2.5}$ in 2024 was 7.7 µg/m^3, which was a decrease in the concentration mean compared to 2025.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Which AQMA? (1)	Monitoring Technique	Distance to Relevant Exposure (m) (2)	Distance to kerb of nearest road (m) (1)	Inlet Height (m)
NTC01	Coast Road	Roadside	428352	566974	NO_2, PM_{10}, $PM_{2.5}$	No		Chemiluminescent; Palas FIDAS (optical light scattering)	37.0	2.0	2.0

Notes:

(1) N/A if not applicable

(2) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

Table A.2 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
BM1	Park Lane, Shiremoor	Roadside	431743	570649	NO_2	NO	4.0	2.0	NO	3.0
BR1	Burradon road, Annitsford	Roadside	427012	573655	NO_2	NO	5.0	2.0	NO	3.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
CC1	John Street, Cullercoats	Kerbside	436246	571385	NO_2	NO	8.0	<1	NO	3.0
CH1	Norham Road/ Rothbury Terrace	Kerbside	433580	567865	NO_2	NO	N/A	<1	NO	3.0
CM1	Broadway, Cullercoats	Roadside	435205	571823	NO_2	NO	15.0	<1	NO	3.0
ER1	Oxen Drive, Benton	Roadside	428965	568813	NO_2	NO	19.0	2.0	NO	3.0
GH1	Lower Crane Street, Shiremoor	Kerbside	431749	571815	NO_2	NO	5.0	2.0	NO	3.0
HR1	Bewicke Road, Willington Quay	Suburban	432683	566400	NO_2	NO	5.0	2.0	NO	3.0
HW3	Meldon Street, East Howdon	Roadside	433194	566418	NO_2	NO	2.0	<1	NO	3.0
KW1	Moorfield Drive,Killingworth	Roadside	428784	570855	NO_2	NO	10.0	2.0	NO	3.0
LB1	West Farm Avenue, Benton	Roadside	426795	568772	NO_2	NO	7.0	2.0	NO	3.0
LB2	Front Street/Benton Road, Longbenton	Kerbside	427079	568377	NO_2	NO	2.0	<1	NO	3.0
LH7	Battlehill Drive, Wallsend	Roadside	430713	567967	NO_2	NO	4.0	4.0	NO	3.0
LP1	Dudley Lane, Seaton Burn	Kerbside	424233	573771	NO_2	NO	10.0	<1	NO	3.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
MC1	White House Drive, Wide Open	Kerbside	426308	570958	NO_2	NO	N/A	2.0	NO	3.0
MR1	Manor Road, Tynemouth	Roadside	436722	569438	NO_2	NO	10.0	<1	NO	3.0
MT1	New York Road	Roadside	432925	570024	NO_2	NO	17.0	2.0	NO	3.0
MT2	Rake Lane	Roadside	433776	570239	NO_2	NO	24.0	2.0	NO	3.0
NS10	Queen Alexandra Road, North Shields	Kerbside	434093	569102	NO_2	NO	NA	<1	NO	3.0
PG2	North Road, Preston Road, Preston Grange	Roadside	435069	569860	NO_2	NO	1.0	2.0	NO	3.0
RV1	Monkseaton Drive, Whitley Bay	Roadside	435076	573325	NO_2	NO	5.0	2.0	NO	3.0
SP1	Holystone Way, Holystone	Roadside	430444	570242	NO_2	NO	5.0	2.0	NO	3.0
TR1	Tynemouth Road, Rosehill	Roadside	431808	566954	NO_2	NO	3.0	2.0	NO	3.0
TY1	Front Street, Tynemouth	Roadside	437028	569379	NO_2	NO	3.0	<1	NO	3.0
W10	Coast Road, Wallsend	Kerbside	429331	567395	NO_2	NO	30.0	2.0	NO	3.0
W99	Frank Street, Wallsend	Kerbside	429951	566324	NO_2	NO	2.0	2.0	NO	3.0
WB20	Grosvenor Drive/Norham	Kerbside	434955	572037	NO_2	NO	N/A	<1	NO	3.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
	Road, Whitley Bay									
WM1	Great Lime Road, Killingworth	Roadside	426738	570543	NO_2	NO	13.0	2.0	NO	3.0
WR1	Whitley Road, Whitley Bay	Kerbside	435767	572041	NO_2	NO	10.0	2.0	NO	3.0

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

Table A.3 – Annual Mean NO_2 Monitoring Results: Automatic Monitoring (µg/m^3)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
NTC01	428352	566974	Roadside	91.5	91.5	35	35.9	35.4	32.3	24.4

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22**

☒ **Reported concentrations are those at the location of the monitoring site (annualised, as required), i.e. prior to any fall-off with distance correction.**

☒ **Where exceedances of the NO_2 annual mean objective occur at locations not representative of relevant exposure, the fall-off with distance concentration has been calculated and reported concentration provided in brackets for 2024.**

Notes:

The annual mean concentrations are presented as µg/m^3.

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Table A.4 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
BM1	431743	570649	Roadside	100.0	100.0	22.4	16.6	16.9	16.0	14.8
BR1	427012	573655	Roadside	100.0	100.0	16.7	11.0	13.2	12.2	11.0
CC1	436246	571385	Kerbside	100.0	100.0	NA	NA	14.0	12.1	11.1
CH1	433580	567865	Kerbside	100.0	100.0	30.2	22.1	25.0	20.9	21.0
CM1	435205	571823	Roadside	100.0	100.0	17.8	12.2	13.5	11.8	10.9
ER1	428965	568813	Roadside	100.0	100.0	NA	NA	NA	NA	14.2
GH1	431749	571815	Kerbside	100.0	100.0	24.6	17.5	18.5	16.3	14.8
HR1	432683	566400	Suburban	100.0	100.0	26.7	19.5	23.6	20.5	18.1
HW3	433194	566418	Roadside	100.0	100.0	20.7	16.7	18.4	16.1	14.5
KW1	428784	570855	Roadside	100.0	100.0	NA	NA	NA	NA	9.4
LB1	426795	568772	Roadside	100.0	100.0	20.3	22.2	23.1	NA	18.5
LB2	427079	568377	Kerbside	100.0	100.0	26.5	18.8	20.5	21.6	21.4
LH7	430713	567967	Roadside	100.0	100.0	25.5	20.0	23.5	23.0	21.5
LP1	424233	573771	Kerbside	100.0	100.0	16.4	12.8	10.2	12.4	11.9
MC1	426308	570958	Kerbside	100.0	100.0	N/A	15.2	17.1	16.7	15.8
MR1	436722	569438	Roadside	100.0	100.0	18.1	12.3	13.2	11.8	11.6
MT1	432925	570024	Roadside	100.0	100.0	NA	NA	NA	NA	13.1
MT2	433776	570239	Roadside	100.0	100.0	NA	NA	NA	NA	18.6
NS10	434093	569102	Kerbside	100.0	100.0	22.9	19.2	20.0	17.1	16.6
PG2	435069	569860	Roadside	90.6	90.6	26.2	20.3	22.1	17.2	14.5
RV1	435076	573325	Roadside	100.0	100.0	NA	NA	18.1	15.3	13.6
SP1	430444	570242	Roadside	100.0	100.0	29.2	21.5	23.0	21.1	19.0
TR1	431808	566954	Roadside	83.0	83.0	25.4	21.2	24.0	21.8	17.9
TY1	437028	569379	Roadside	83.0	83.0	28.4	18.1	18.8	17.3	14.6
W10	429331	567395	Kerbside	90.6	90.6	31.6	23.1	26.1	22.2	21.6

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
W99	429951	566324	Kerbside	100.0	100.0	25.5	19.0	20.2	16.9	15.3
WB20	434955	572037	Kerbside	100.0	100.0	16.9	13.1	13.2	16.6	10.6
WM1	426738	570543	Roadside	100.0	100.0	NA	NA	NA	NA	13.9
WR1	435767	572041	Kerbside	100.0	100.0	21.1	17.0	16.9	14.7	13.9

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☒ **Diffusion tube data has been bias adjusted.**

☒ **Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.**

Notes:

The annual mean concentrations are presented as µg/m^3.

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.1 – Trends in Annual Mean NO2 Concentrations at Long Term Non-Automatic Monitoring Sites

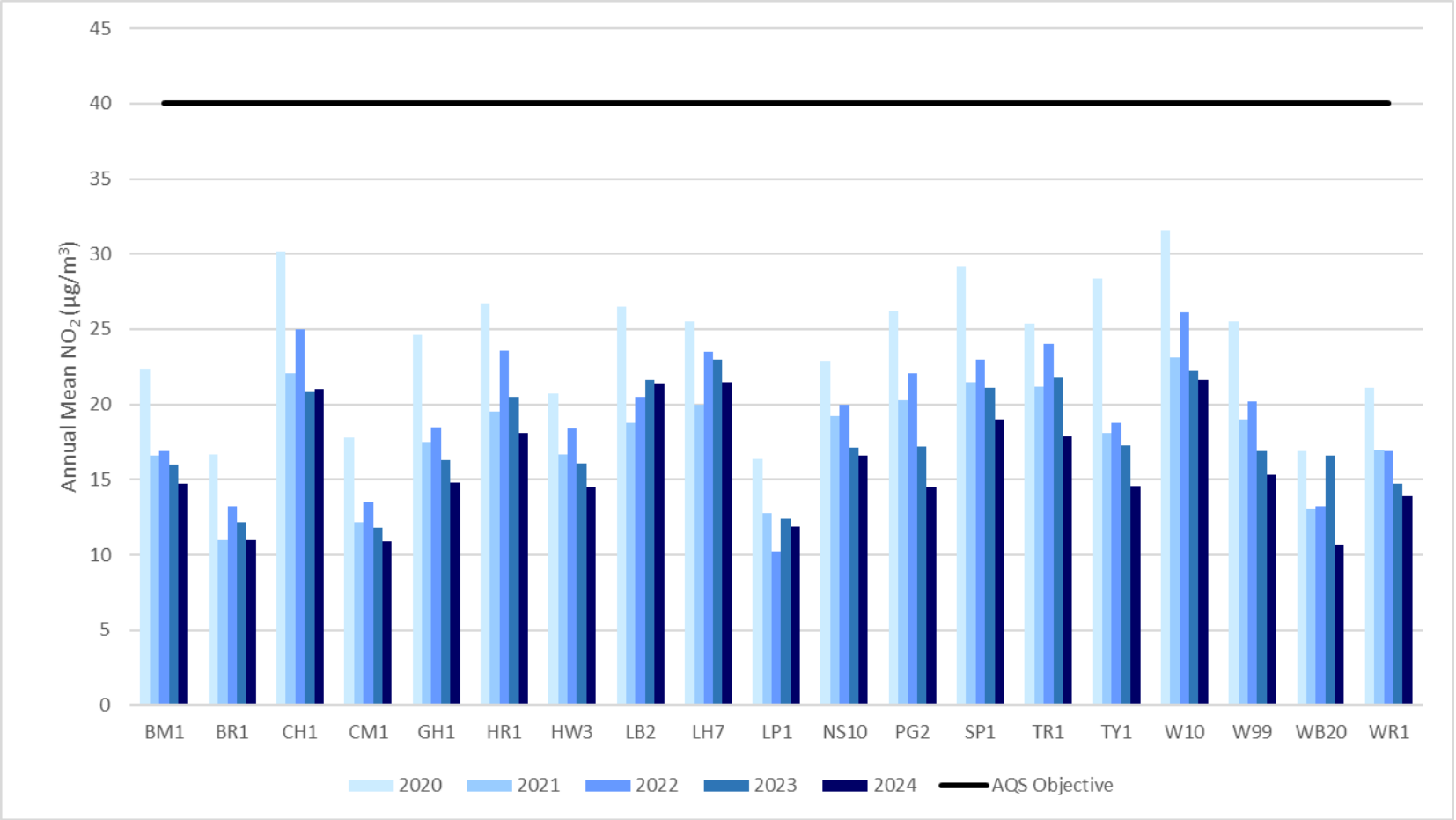


Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
NTC01	428352	566974	Roadside	91.5	91.5	**0**	**0**	**0**	**0**	0

Notes:

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m^3 have been recorded.

Exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Table A.6 – Annual Mean PM_{10} Monitoring Results ($\mu g/m^3$)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
NTC01	428352	566974	Roadside	59.4	59.4	15.4	16.7	20.9	19.7	16.6

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

Notes:

The annual mean concentrations are presented as $\mu g/m^3$.

Exceedances of the PM_{10} annual mean objective of 40$\mu g/m^3$ are shown in **bold**.

All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.2 – Trends in Annual Mean PM_{10} Concentrations at Automatic Monitoring Location NTC01

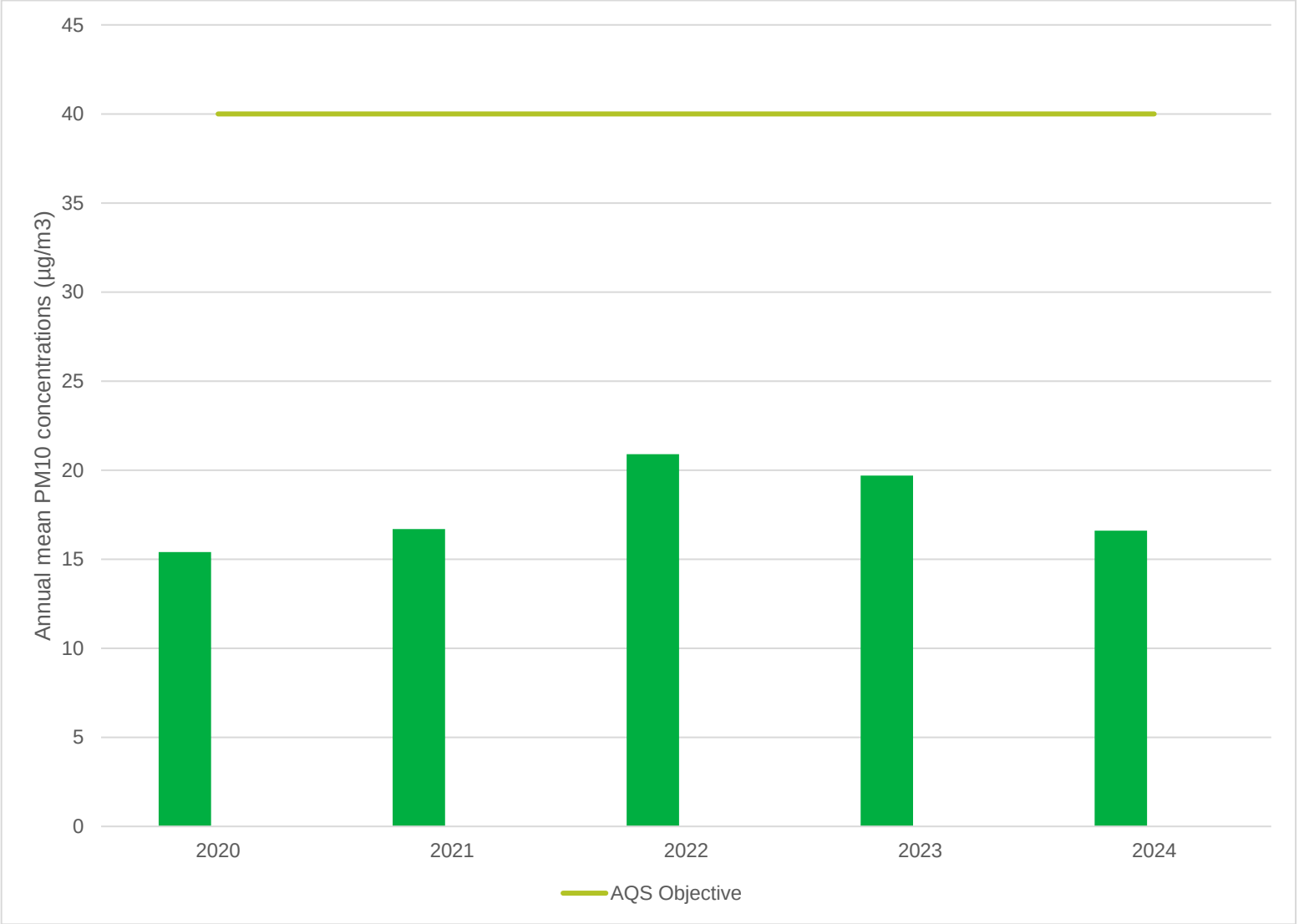


Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
NTC01	428352	566974	Roadside	59.4	59.4	3	1	8	9	0 (35)

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m^3 have been recorded.

Exceedances of the PM_{10} 24-hour mean objective (50µg/m^3 not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results ($\mu g/m^3$)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
NTC01	428352	566974	Roadside	59.4	59.4	8	8	9	8.5	7.7

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

Notes:

The annual mean concentrations are presented as $\mu g/m^3$.

All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO_2 2024 Diffusion Tube Results ($\mu g/m^3$)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
BM1	431743	570649	18.9	22.2	18.7	14.9	15.6	10.7	13.2	12.8	13.7	22.8	27.8	19.9	17.6	14.8		
BR1	427012	573655	13.8	16.8	16.9	11.2	13.3	7.7	9.4	9.2	11.7	18.1	17.9	11.9	13.1	11.0		
CC1	436246	571385	15.4	17.2	14.2	10.7	10.7	8.9	9.0	9.9	8.9	17.6	22.3	14.1	13.2	11.1		
CH1	433580	567865	26.9	29.6	29.8	22.2	25.2	20.2	24.5	17.7	24.0	26.1	29.2	24.5	25.0	21.0		
CM1	435205	571823	13.9	16.5	15.0	10.7	12.6	8.6	11.8	7.9	10.2	15.3	18.8	14.8	13.0	10.9		
ER1	428965	568813	19.5	20.6	17.9	14.5	12.5	10.0	12.5	13.5	12.1	23.1	27.0	19.3	16.9	14.2		
GH1	431749	571815	20.7	20.8	17.0	15.5	16.3	13.6	14.0	13.2	14.8	20.5	25.0	19.7	17.6	14.8		
HR1	432683	566400	26.6	27.8	23.6	17.0	20.4	16.5	20.0	16.2	19.5	23.0	26.0	22.0	21.6	18.1		
HW3	433194	566418	19.3	22.3	18.6	14.7	14.0	13.1	15.3	12.3	14.0	17.0	27.0	19.2	17.3	14.5		
KW1	428784	570855	11.7	13.7	12.5	8.1	8.5	7.1	8.8	7.7	9.4	14.7	19.4	12.6	11.2	9.4		
LB1	426795	568772	26.3	27.1	23.7	17.9	19.8	18.4	18.7	15.5	22.3	22.6	28.7	22.6	22.0	18.5		
LB2	427079	568377	28.3	31.3	24.2	21.5	22.7	19.3	22.3	18.7	25.4	28.7	35.4	28.3	25.5	21.4		
LH7	430713	567967	28.1	34.8	29.0	18.6	21.8	19.4	20.9	20.2	20.3	30.5	34.1	30.1	25.7	21.5		
LP1	424233	573771	16.1	17.6	15.6	11.3	12.9	9.9	11.0	9.9	13.1	18.0	20.5	13.7	14.1	11.9		
MC1	426308	570958	20.5	23.2	18.9	14.6	15.5	13.0	16.3	15.5	15.8	24.1	27.8	20.4	18.8	15.8		
MR1	436722	569438	15.1	17.9	14.1	11.0	12.1	9.6	10.8	10.6	9.0	18.2	21.4	15.6	13.8	11.6		
MT1	432925	570024	20.7	20.6	16.3	13.7	12.2	10.2	10.1	10.6	11.4	18.8	23.6	19.2	15.6	13.1		
MT2	433776	570239	22.9	26.5	19.9	19.7	22.4	18.2	20.4	14.7	23.0	23.2	29.6	25.0	22.1	18.6		
NS10	434093	569102	23.1	27.2	19.8	14.3	13.6	17.6	15.0	16.5	14.1	21.8	29.3	25.1	19.8	16.6		
PG2	435069	569860	23.3	22.5	18.6	19.0	17.5	4.2	7.7	14.3	16.6	19.9	25.9		17.2	14.5		
RV1	435076	573325	18.2	19.7	15.8	13.6	16.5	11.9	13.7	12.2	13.8	18.7	21.5	18.8	16.2	13.6		
SP1	430444	570242	22.9	28.0	25.9	21.5	23.5	17.6	21.8	16.0	21.2	24.0	28.2	20.4	22.6	19.0		
TR1	431808	566954	23.0	20.9	22.2	21.3	21.7	18.7	15.2	14.7	N/A	N/A	30.9	24.4	21.3	17.9		
TY1	437028	569379	N/A	N/A	17.2	13.2	14.5	15.8	16.5	16.8	10.9	20.6	27.1	20.9	17.4	14.6		
W10	429331	567395	27.3	N/A	29.9	23.0	22.7	21.4	22.8	24.2	19.4	30.2	34.7	26.8	25.7	21.6		
W99	429951	566324	19.5	25.0	20.7	14.8	15.1	13.1	16.3	13.4	14.9	21.0	25.4	19.4	18.2	15.3		

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted <(x.x)>	Annual Mean: Distance Corrected to Nearest Exposure	Comment
WB20	434955	572037	15.9	16.6	14.0	11.1	10.3	8.3	9.0	8.8	9.3	11.8	21.4	15.7	12.7	10.6		
WM1	426738	570543	18.6	23.7	21.6	14.5	15.6	11.8	13.5	12.3	13.1	13.7	23.2	17.4	16.6	13.9		
WR1	435767	572041	19.4	22.7	17.5	12.9	12.4	11.4	12.3	13.1	9.9	19.7	26.9	19.9	16.5	13.9		

☒ **All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table B.1.**

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☐ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

☒ **Where applicable, data has been distance corrected for relevant exposure in the final column.**

☒ **North Tyneside Council confirm that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

New or Changed Sources Identified Within North Tyneside Council During 2024

There were two new sources relating to air quality within the reporting year of 2024, where air quality has been considered. Details of the new sources are provided below.

Planning:

Two planning applications were considered in 2024 that were identified as having a potential to impact air quality. One of the planning applications was granted planning permission, planning reference 24/01375/FUL Unit 7A Alder Road for a pet crematorium. The other application 24/01627/FULM Queen Alexandra College, is still under consideration and has yet to be granted for development.

24/01627/FULM

This planning application is for the redevelopment of former Tynemet College site, including demolition of modern college buildings and construction of 47 residential dwellings and associated hard and soft landscaping works. The application was submitted on the 10 December 2024 and is yet to obtain planning consent. An air quality assessment has been provided with the application and considers impacts arising from the construction phase and from the operational phase. Both phases have been assessed as not significant, consultation advice from environmental health is minded to grant conditional on the submission for approval and implementation of a construction management plan for mitigating dusts. For the operational phase the development is not considered to generate more than 500 Annual Average Daily Traffic Count (AADT) or HGV flows greater than 100 AADT and the impact arising from vehicle exhaust emissions is predicted to be not significant.

24/01375/FUL

This application was for the change of use of the building to a pet crematorium, with external flues installed. The application was approved on the 27 January 2025. An air quality assessment was provided with the application that considered the combustion emissions that will arise from the cremations and have the potential to cause air quality impacts. Dispersion modelling was provided as part of the assessment considering the pollutant impacts including for nitrogen dioxide, particulates, sulphur dioxide, and carbon monoxide. The assessment determined that impacts at nearest sensitive receptors will be negligible based on normal operations and considered not significant and that air quality impacts would be negligible. This was based on 6 metre high flues from the ground being installed and limited to one cremator operating at any one time.

There was one new industrial source relating to air quality identified within the reporting year 2024.

Table C.1 – New Industrial Sources

Permit No.	Company Name	Address	Guidance Note	Description
NT173	Smulders Projects UK Limited	Smulders Projects UK Limited Hadrian Way, Hadrian Road, Wallsend, Tyne and Wear, NE28 6HL	PG 6/23	Coating of metal and plastic - iv) general industrial Schedule 1 Section 6.4 Environmental Permitting Regulations 2016

The environmental permit was issued on the 8 August 2024. The process is a fixed shot blasting/paint spraying operation. The painting facility has a ventilation system installed to remove solvent fumes utilising 12 ventilation extractor fans. The extracted air is filtered by G3 prefilter and G4 filter and M5 filter. The shot blasting of steel plate takes place within an enclosed shot blasting facility fitted linked to the extraction for the painting facility extraction system. The principal sources of releases to air from the process are particulates from the shot blasting, however this is carried out within the painting facility that has a closed filtration system. VOC emissions will arise from the storage of paint and preparation of paint and VOC emissions from paint spraying.

Additional Air Quality Works Undertaken by North Tyneside Council During 2024

North Tyneside Council has not completed any additional works within the reporting year of 2024.

QA/QC of Diffusion Tube Monitoring

North Tyneside Council uses the Gradko Laboratory for the supply and analysis of the NO_2 diffusion tubes. The tubes were prepared using the 20% TEA in water preparation method.

Gradko are UKAS accredited and participate in analysis scheme AIR-PT. Monitoring is shown per calendar year.

Diffusion Tube Annualisation

All diffusion tube monitoring locations within North Tyneside recorded data capture of 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

Diffusion Tube Bias Adjustment Factors

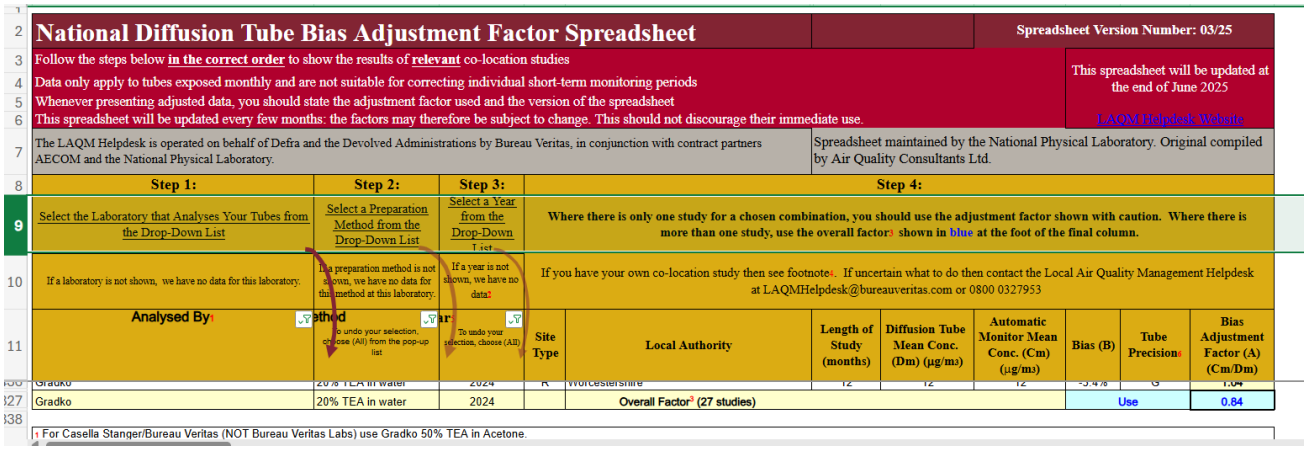
The diffusion tube data presented within the 2024 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

North Tyneside Council have applied a national bias adjustment factor of 0.84 to the 2024 monitoring data to correct the diffusion tube monitoring data rather than using a local bias factor.

Diffusion tubes for North Tyneside Council are supplied and analysed by Gradko International Ltd who are UKAS accredited testing laboratory (No. 2187) to

ISO:17025:2017. The laboratory also participates in the AIR PT analysis proficiency testing scheme for round AIR PT 62, 63, 65 and 66, with their performance considered satisfactory for each round of the assessment period during 2024, achieving 100% during each round. The tubes were prepared using the 20% TEA in water preparation method. The national bias adjustment factor for Gradko 20% TEA in water is 0.84 for the year 2024 (based on 27 studies) as derived from the national bias adjustment factor spreadsheet 03/25 as presented in Table C.2. A screenshot of the spreadsheet is provided in Figure C.1

Figure C.1. National Bias Adjustment



National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/25

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies

Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods

Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet

This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of June 2025

LAQM Helpdesk Website

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1:	Step 2:	Step 3:	Step 4:
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data[2]	If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953

Analysed By[1]	Method	Year	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m3)	Automatic Monitor Mean Conc. (Cm) (µg/m3)	Bias (B)	Tube Precision[5]	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in water	2024	R	Worcestershire	12	12	12	-5.4%	G	1.04
Gradko	20% TEA in water	2024		Overall Factor[3] (27 studies)				Use		0.84

[1] For Casella Stanger/Bureau Veritas (NOT Bureau Veritas Labs) use Gradko 50% TEA in Acetone.

Table C.1 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	03/25	0.84
2023	National	03/24	0.81
2022	National	03/23	0.83
2021	National	03/22	0.84
2020	National	03/21	0.81

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website.

Distance correction would be considered at any monitoring site where the annual mean concentration is greater than 36µg/m^3 and the monitoring site is not located at a point of relevant exposure.

No diffusion tube NO_2 monitoring locations within North Tyneside required distance correction during 2024.

QA/QC of Automatic Monitoring

North Tyneside utilities data from an automatic monitoring site operated and owned by the Urban Observatory at Newcastle University. The Urban Observatory carries out routine manual calibrations fortnightly. The supplier, Air Monitors, carries out maintenance and independent calibration on the equipment every six months. North Tyneside Council uses Ricardo to ratify the data. The Air Quality England webpage presents automatic monitoring results for North Tyneside, with automatic monitoring results also available through the UK-Air website.

PM_{10} and $PM_{2.5}$ Monitoring Adjustment

The type of PM_{10}/$PM_{2.5}$ monitor(s) utilised within North Tyneside do not require the application of a correction factor.

Automatic Monitoring Annualisation

Annualisation is required for any site with data capture less than 75% but greater than 25%. The automatic monitoring location NTC01 within North Tyneside recorded data capture of less than 75% for particulates and therefore this data required annualisation. Two background sites that had good data capture were used to annualise the data for PM_{10} and $PM_{2.5}$. Details on the PM_{10} and $PM_{2.5}$ annualisation summary are provided in tables C.3 and C.4.

Table C.3 – Automatic PM_{10} Annualisation Summary (concentrations presented in $\mu g/m^3$

Background Site	Annual Data Capture (%)	Annual Mean (A_m)	NTC01	
			Period Mean (P_m)	Ratio (A_m / P_m)
Sunderland Silksworth	99.9	11.0	11.4	0.961
Newcastle Centre	94.9	12.6	12.9	0.972
Average (R_a)			**0.967**	
Raw Data Annual Mean (M)			**17.2**	
Annualised Annual Mean (M x R_a)			**16.6**	

Table C.4 – Automatic $PM_{2.5}$ Annualisation Summary (concentrations presented in $\mu g/m^3$

Background Site	Annual Data Capture (%)	Annual Mean (A_m)	NTC01	
			Period Mean (P_m)	Ratio (A_m / P_m)
Sunderland Silksworth	99.9	6.7	7.2	0.926
Newcastle Centre	96.4	6.9	7.4	0.940
Average (R_a)			**0.933**	
Raw Data Annual Mean (M)			**8.2**	
Annualised Annual Mean (M x R_a)			**7.7**	

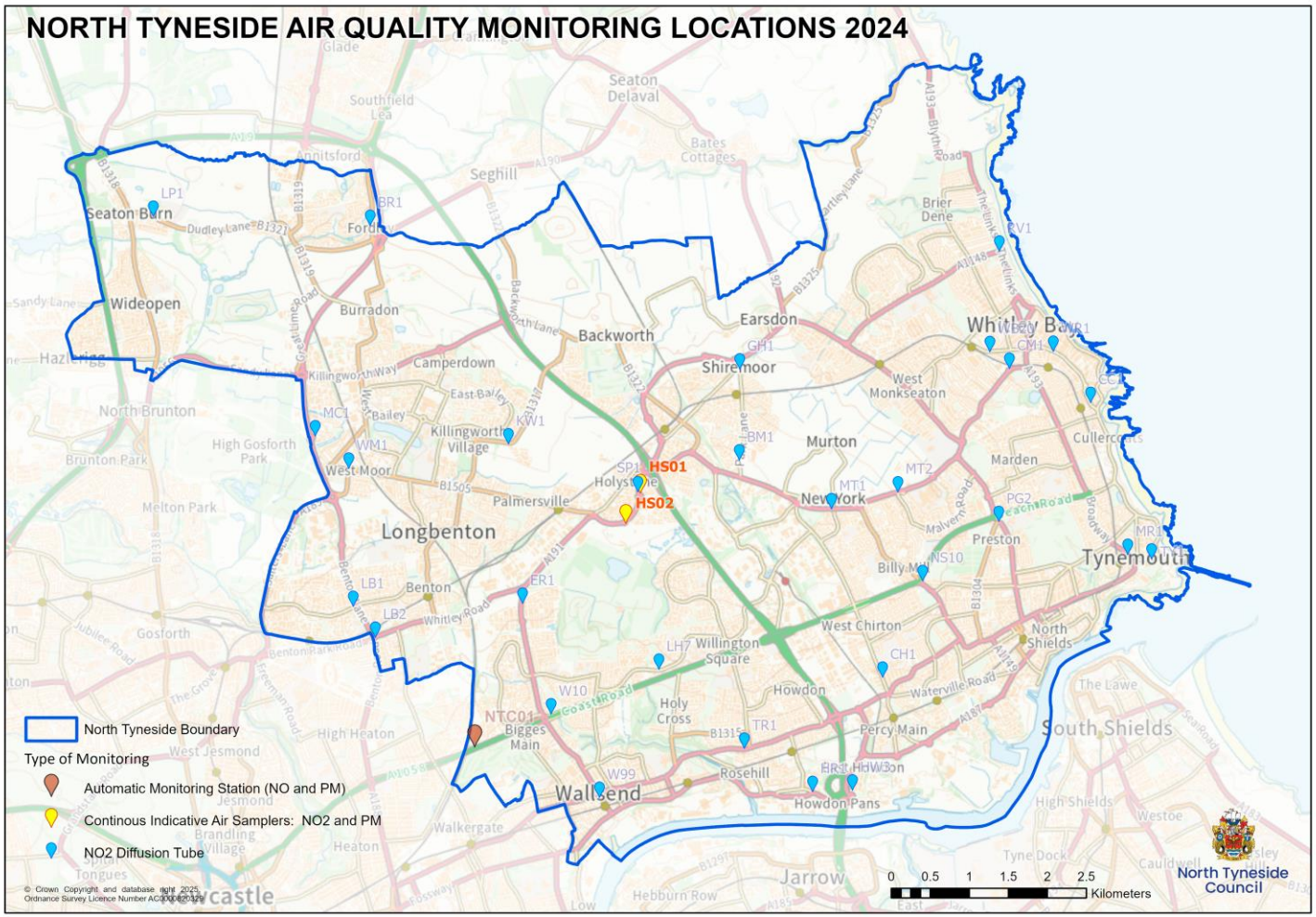
NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the NO_2 fall-off with distance calculator available on the LAQM Support website.

No automatic NO_2 monitoring locations within North Tyneside required distance correction during 2023.

Appendix D: Map(s) of Monitoring Locations

Figure D.1 – Map of Automatic and Non-Automatic Monitoring Sites



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[2]

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO_2)	200µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO_2)	40µg/m^3	Annual mean
Particulate Matter (PM_{10})	50µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM_{10})	40µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO_2)	125µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO_2)	266µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

[2] The units are in microgrammes of pollutant per cubic metre of air (µg/m^3).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Chemical hazards and poisons report: Issue 28. June 2022. Published by UK Health Security Agency
- Air Quality Strategy – Framework for Local Authority Delivery. August 2023. Published by Defra.